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REMARKS

Claim 258 has been amended. Support for the amendment is found on page 18, lines 3-10. Support for new claim 278 is found in Figures 1, 5H and 5I.

Paragraph 8 of Office Action of 06/04/2004

Claim Rejections-35 USC 103

Claims 258-268 are rejected under 35 USC 103(a) as being unpatentable over Gonzalez et al (US 5,854,102) in view of Tanashashi (US 6064,084).

REGARDING CLAIM 258 (AS AMENDED)

Gonzalez

Gonzalez fails to teach a conductive material having a top surface having a lateral dimension less than 1000 Angstroms. The conductive material 38 (see Figure 7) is formed as a diode. Hence, the width "w" of diode 38 is limited. In fact, referring to Gonzalez column 7, lines 64 to column 8, line 2, Gonzalez teaches that the width "w" of trench 24 (shown in Figure 6) is limited by the required current needed for programming and is preferably between 0.3 microns (3000 Angstroms) and 0.8 microns (8000 Angstroms) with about 0.4 microns (4000 Angstroms) to about 0.6 microns (6000 Angstroms) being more preferred. In addition, Gonzalez teaches that the trenches 24 are formed using conventional masking and etching processes. At the time at which Gonzalez was filed, such conventional masking and etching processes could not even form a trench with a width less than 1000 Angstroms. Hence, Gonzalez does not teach or suggest that the top surface of the diode 38 may have a lateral dimension which is less than 1000 Angstroms.

Tanahashi

Applicant's claim 258 has been amended to recite in pertinent part:

"said conductive material having a substantially uniform thickness along said sidewall surface"

Figure 2C of Tanahashi shows a conductive material 3. Tanahashi teaches away from the use of the structure shown in Figure 2C because of its high contact resistance (see column 3, lines 50-55 of Tanahashi).

Tanahashi teaches the benefits of using Figure 3C. It is respectfully noted that Figure 3C does not teach or suggest applicant's limitation since conductive material 53 shown in Figure 3C does not have a substantially uniform thickness along said sidewall surface (see overhang portion 53A). The thickness of the conductive material radically increases at the overhang.

Hence, in view of the amendment to claim 258, the rejection of claim 258 as being unpatentable under 35

REGARDING NEW CLAIM 278

Neither Gonzalez nor Tanahashi teach or suggest all of the limitations of applicant's claim new claim 278.

Regarding Gonzalez, it is noted that the dielectric material 20 is not formed over the remainder of the bottom surface of the opening (see Figure 6 of Gonzalez).

Regarding Tanahashi it is noted that conductive material 53 (as shown in Figure 3C of Tanahashi) is formed over the entire bottom surface of hole 52A.

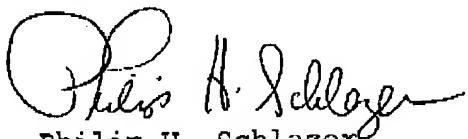
Hence, in view of the amendment to claim 258, neither Gonzalez, Tanahashi alone nor the combination of Gonzalez in view of Tanahashi teach or suggest all of the limitations of claim 258. Hence, the rejection of claims 258-268 under 35 USC 103(a) as being unpatentable over Gonzalez in view of Tanahashi is overcome and applicant requests it be removed.

Likewise, neither Gonzalez, Tanahashi, nor the combination of Gonzalez in view of Tanahashi teach or suggest the limitations of new claim 278.

SUMMARY

Claims 258 has been amended. In view of the amendment to claim 258 and the above remarks, the claims 258-268 and 276-289 are in condition for allowance. Applicant respectfully requests reconsideration, withdrawal of the outstanding rejections, and notifications of allowance. Should the Examiner have any questions or suggestions regarding the prosecution of this application, he is asked to contact applicant's representative at the telephone number listed below.

Respectfully submitted,



Philip H. Schlazer

Reg. No. 42,127

Date: 4 October 2004
Energy Conversion Devices
2956 Waterview Drive
Rochester Hills, MI 48309

Phone (248) 293-0440 extension 6260
Fax (248) 844-2273

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